APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/201,530	11/30/1998	DONALD F. GORDON	533/173	1669

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EXAMINER
KOENIG, ANDREW Y

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/201,530	GORDON ET AL.
	Examiner	Art Unit	
	Andrew Y. Koenig	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6-10,13-16,18 and 28-34* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6-10,13-16,18 and 28-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1, 2, 6-10, 13-16, 18, and 28-34

have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1, 2, 6-10, 13, 14, 28, 29, and 31 are rejected under 35 U.S.C. 103(a) as

being unpatentable over U.S. Patent 6,314,576 to Asamizuya et al. (Asamizuya) in view

of U.S. Patent 5,970,233 to Liu et al. (Liu), PCT WO 96/13121 to McLaren, U.S. Patent

5,657,072 to Aristides et al. (Aristides) and U.S. Patent 5,892,910 to Safadi.

Regarding claim 1, Asamizuya teaches encoding a video frame sequence to form

a storage bitstream (col. 9, ll. 2-19), which is stored then is archive storage (col. 10, ll.

41-48). Asamizuya teaches transmitting the video stream to subscribers (col. 10, ll. 41-

48).

Asamizuya is silent on teaching the transmitting the bitstream at the same time

as storing the bitstream.

Liu teaches encoding video frame sequences to form a broadcast stream and

storing and transmitting the encoded data (col. 3, ll. 36-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Asamizuya by encoding a video frame sequence as and transmitting and storing the encoded data as taught by Liu in order to compress the data and consequently making efficient use of the bandwidth while storing and transmitting at the same time.

The combination of Asamizuya and Liu teaches simultaneous storage and transmission but is silent on a broadcast encoder receiving and encoding real-time video frame sequence to form a broadcast bitstream. In analogous art, Safadi teaches the use of transmitting data using a 64 QAM multiplexer/modulator for sending data over a CATV network (col. 9, II. 30-38), wherein the QAM multiplexer/modulator encodes the received signal with forward error-correction and QAM encoding (col. 10, II. 1-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Asamizuya and Liu by using a broadcast encoder to the received video signals as taught by Safadi in order to increase the signals resilience to noise during the transmission of the signal to the set top boxes of the network.

Asamizuya teaches encoding video from film stock or Video Tape Recorder (VTR), whereas one of ordinary skill recognizes that the frame sequence is not necessarily real time in film stock or a VTR. In analogous art, Aristides teaches the use of real-time encoding (col. 5, II. 34-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Asamizuya, Liu, and Safadi by implementing a real-time encoder in order to compress the video in real-

time thus enabling the viewing of live programs and compress uncompressed programs, thereby reducing the bandwidth of the signal.

Asamizuya, Liu, Safadi, and Aristides teach encoders, wherein the encoders receive and encode real-time sequences contemporaneously with the broadcast encoder receiving and encoding the real-time sequence, in that the sequences are video. However, Asamizuya, Liu, Safadi, and Aristides are silent on the specifics of the encoders, specifically they are silent on a first encoder to produce a play bitstream to produce a forward play sequence, a frame subsampler, a buffer for storing sub-sampled frames, a second encoder for fast-forward, a third encoder for fast-rewind, and a controller that selects sub-sampled frames from the buffer and couples to the second and third encoders.

McLaren teaches an encoder (fig. 4, lab. 100), which creates a standard play video frame sequence (fig. 4, lab. 101), which reads on the claimed first encoder. McLaren teaches a frame subsampler (fig. 4, lab. 55, 65, and 75, see also col. 4, II. 8-21), which equates to a buffer for storing sub-sampled frames of the real-time sequence. McLaren teaches an encoder for producing a fast forward frame sequence (claimed second encoder) and a reverse sequence (claimed third encoder)(fig. 4, lab. 120,130, and 140); it should be understood that each of the encoders provide video at different rates (as determined by the subsampling) in order to provide trick play functions, such as fast forward and fast reverse (Abstract; see also pg. 1, II. 31-34, pg. 13, II. 15-18). McLaren teaches a controller (fig. 4, lab. 90), which indirectly selects the frames from the buffer in that it provides the information to place the frames in the

subsamplers, and couples selected frames to the second and third encoders by placing

them in the subsamplers (pg. 6, ll. 21-24).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the storage encoder of Asamizuya, Liu, Safadi,

and Aristides by implementing a first encoder to produce a play bitstream to produce a

forward play sequence, a frame subsampler, a buffer for storing sub-sampled frames, a

second encoder for fast-forward, a third encoder for fast-rewind, and a controller as

taught by McLaren in order to provide trick play features and enabling the user to

navigate through programs more efficiently.

Since the system of McLaren encodes and sub-samples at the same time as the

play stream, and the combination of Asamizuya, Liu, Safadi, and Aristides receive and

encode real-time sequences for storage contemporaneously with the broadcast encoder

receiving and encoding the real-time sequence. The combination of Asamizuya, Liu,

Safadi, Aristides, McLaren encodes and sub-samples at the same time as the broadcast

stream.

Regarding claim 2, Asamizuya teaches encoding video and video inherently is a

high data rate bit stream, accordingly a video encoder is inherently a high data rate

encoder in order to encode and compress the high data rate of the video signal.

Regarding claim 6, Asamizuya teaches encoding MPEG data (col. 8, ll. 35-40),

which inherently much code frames of video.

Regarding claim 7, Asamizuya and Liu are silent on encoding subsample frames of the video.

McLaren teaches subsampling frames and encoding (fig. 4, lab. 55, 65, and 75). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Asamizuya and Liu by encoding a subsample of video frames as taught by McLaren in order to facilitate fast forward and fast reverse using frames thereby enabling the user to gain more functionality and control.

Regarding claim 8, Asamizuya and Liu are silent on multiplexing frames to the subsampled frames. Clearly, both Asamizuya and Liu have controllers.

McLaren teaches a controller and subsampling the frames to apply a subsample of frames to an encoder, and applying a subsampling of a different rate to a third encoder (fig. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Asamizuya and Liu by subsampling the frames for the second and third encoders as taught by McLaren in order to encode frames at different rates and to support additional features to the user.

Regarding claims 9, 13, 14, Asamizuya teaches encoding a video frame sequence to form a storage bitstream (col. 9, ll. 2-19), which is stored then is archive

storage (col. 10, ll. 41-48). Asamizuya teaches transmitting the video stream to subscribers (col. 10, ll. 41-48).

Asamizuya is silent on teaching the transmitting the bitstream at the same time as storing the bitstream.

Liu teaches encoding video frame sequences to form a broadcast stream and storing and transmitting the encoded data (col. 3, ll. 36-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Asamizuya by encoding a video frame sequence as and transmitting and storing the encoded data as taught by Liu in order to compress the data and consequently making efficient use of the bandwidth while storing and transmitting at the same time.

The combination of Asamizuya and Liu teaches simultaneous storage and transmission but is silent on a broadcast encoder receiving and encoding real-time video frame sequence to form a broadcast bitstream. In analogous art, Safadi teaches the use of transmitting data using a 64 QAM multiplexer/modulator for sending data over a CATV network (col. 9, ll. 30-38), wherein the QAM multiplexer/modulator encodes the received signal with forward error-correction and QAM encoding (col. 10, ll. 1-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Asamizuya and Liu by using a broadcast encoder to the received video signals as taught by Safadi in order to increase the signals resilience to noise during the transmission of the signal to the set top boxes of the network.

Asamizuya teaches encoding video from film stock or Video Tape Recorder

(VTR), whereas one of ordinary skill recognizes that the frame sequence is not

necessarily real time in film stock or a VTR. In analogous art, Aristides teaches the use

of real-time encoding (col. 5, ll. 34-39). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify Asamizuya, Liu,

and Safadi by implementing a real-time encoder in order to compress the video in real-

time thus enabling the viewing of live programs and compress uncompressed programs,

thereby reducing the bandwidth of the signal.

Asamizuya, Liu, Safadi, and Aristides teach encoders, wherein the encoders

receive and encode real-time sequences contemporaneously with the broadcast

encoder receiving and encoding the real-time sequence, in that the sequences are

video. However, Asamizuya, Liu, Safadi, and Aristides are silent on the specifics of the

encoders, specifically they are silent on a first encoder to produce a play bitstream to

produce a forward play sequence, a frame subsampler, a buffer for storing sub-sampled

frames, a second encoder for fast-forward, a third encoder for fast-rewind, and a

controller that selects sub-sampled frames from the buffer and couples to the second

and third encoders.

McLaren teaches an encoder (fig. 4, lab. 100), which creates a standard play

video frame sequence (fig. 4, lab. 101), which reads on the claimed first encoder.

McLaren teaches a frame subsampler (fig. 4, lab. 55, 65, and 75, see also col. 4, ll. 8-

21), which equates to a buffer for storing sub-sampled frames of the real-time

sequence. McLaren teaches an encoder for producing a fast forward frame sequence

(claimed second encoder) and a reverse sequence (claimed third encoder)(fig. 4, lab. 120,130, and 140); it should be understood that each of the encoders provide video at different rates (as determined by the subsampling) in order to provide trick play functions, such as fast forward and fast reverse (Abstract; see also pg. 1, ll. 31-34, pg. 13, ll. 15-18). McLaren teaches a controller (fig. 4, lab. 90), which indirectly selects the frames from the buffer in that it provides the information to place the frames in the subsamplers, and couples selected frames to the second and third encoders by placing them in the subsamplers (pg. 6, ll. 21-24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the storage encoder of Asamizuya, Liu, Safadi, and Aristides by implementing a first encoder to produce a play bitstream to produce a forward play sequence, a frame subsampler, a buffer for storing sub-sampled frames, a second encoder for fast-forward, a third encoder for fast-rewind, and a controller as taught by McLaren in order to provide trick play features and enabling the user to navigate through programs more efficiently.

Since the system of McLaren encodes and sub-samples at the same time as the play stream, and the combination of Asamizuya, Liu, Safadi, and Aristides receive and encode real-time sequences for storage contemporaneously with the broadcast encoder receiving and encoding the real-time sequence. The combination of Asamizuya, Liu, Safadi, Aristides, McLaren encodes and sub-samples at the same time as the broadcast stream.

Regarding claim 10, the limitations of claim 10 have been addressed in the discussion of claim 2.

Regarding claim 28, Asamizuya teaches a transmission system for transmitting the broadcast bitstream (col. 50-53).

Regarding claim 29, Asamizuya teaches an archive storage (fig. 2, label 116, col. 10, ll. 7-16).

Regarding claim 31, Asamizuya teaches a broadcasting the broadcast bitstream (col. 50-53), the discussion of contemporaneous storage is addressed in claim 9.

4.   Claims 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,314,576 to Asamizuya et al., U.S. Patent 5,970,233 to Liu et al., PCT WO 96/13121 to McLaren, U.S. Patent 5,657,072 to Aristides et al. (Aristides) and U.S. Patent 5,892,910 to Safadi in view of U.S. Patent 5,771,335 to Lee.

Regarding claim 16, Asamizuya teaches recalling bitstreams from a storage device as requested by a subscriber terminal (Abstract). Asamizuya is silent on addressing the requested bitstream to the requesting subscriber.

Lee teaches receiving data as per the user's request (col. 2, ll. 29-36), which clearly addresses the bitstream to the appropriate user in order to efficiently and effectively send data over the network.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Asamizuya by addressing bitstreams to users as taught by Lee in order to provide services to the user.

Regarding claim 32, Asamizuya teaches recalling bitstreams from a storage

device as requested by a subscriber terminal (Abstract). Asamizuya is silent on

addressing the requested bitstream to the requesting subscriber.

Lee teaches receiving data as per the user's request (col. 2, ll. 29-36), which

clearly addresses the bitstream to the appropriate user in order to efficiently and

effectively send data over the network. Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify Asamizuya by

addressing bitstreams to users as taught by Lee in order to provide services to the user.

5.   Claims 18, 30, 33, and 34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent 6,314,576 to Asamizuya et al. (Asamizuya) in view of

U.S. Patent 5,970,233 to Liu et al. (Liu), PCT WO 96/13121 to McLaren, U.S. Patent

5,657,072 to Aristides et al. (Aristides) and U.S. Patent 5,892,910 to Safadi in view of

U.S. Patent 5,701,383 to Russo et al. (Russo).

Regarding claims 18, 30, 33, and 34, Asamizuya is silent on teaching switching

from decoding a storage bitstream to a broadcast bit stream.

Russo teaches switching from the storage bitstream to the broadcast bit stream,

where a time-shifted version of the program is transmitted and is fast forwarded until it

"catches up" with the broadcasted program (col. 3, ll. 31-38), clearly Russo has some

form of an indicator in order to recognize that the streams should be switched.

Therefore, it would have been obvious to one of ordinary skill in the art at the

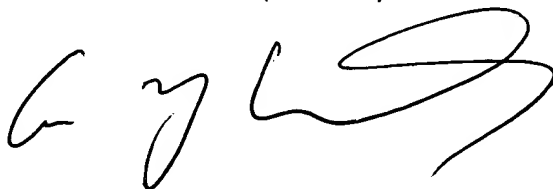time the invention was made to modify Asamizuya by switching from decoding a storage

bitstream to a broadcast bit stream as taught by Russo in order to permit the user to view the time-shifted portion of a program and upon a request fast forward up to the current broadcast, thereby enabling real-time viewing of the broadcasted information.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Y. Koenig whose telephone number is (703) 306-0399. The examiner can normally be reached on M-Th (7:30 - 6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (703) 305-4755. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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